REMARKS

1. Objection to Information Disclosure Statement

In the Office Action dated January 21, 2004, the Examiner objected to the Information Disclosure Statement filed December 11, 2000, as failing to include legible copies of each cited document. We are filing concurrently herewith a Substitute Information Disclosure Statement and Form PTO-1449, together with clean copies of each document cited therein. Accordingly, it is respectfully requested that the Examiner consider the information contained in the IDS.

2. Rejection Under 35 U.S.C. 112

In the Office Action, the Examiner rejected claim 20 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner further stated:

> The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Office Action, Paragraph 4.

It should be noted that the patent claims (and in fact the entire patent application as filed on October 30, 2000) was originally drafted in English and filed by a U.S. law firm. Neither the specification nor the claims are translations from any other language. The Applicants believe that claim 20, as well as all of the claims, are drafted in plain, well-understood terms, and so no amendment to the claims in response to this rejection is deemed to be necessary.

As well-supported by the patent application specification, claim 20 recites how a network simplification (to ease analysis and modeling) may be performed. Instead of having to model the entire system (the Internet), a model representation of the entire Internet's network may be built, and the network model can be combined and reduced. Nodes through which there are no

alternative routes may be combined into approximated nodes, such that analysis and modeling is simplified. Nodes may be combined or aggregated into other nodes depending on how traffic is determined to flow through the nodes, and if aggregation does not affect the overall analysis and modeling. An example of this process may be found on page 33, lines 9-21 of the specification of the present patent application.

3. Rejections under 35 U.S.C. 102

In the Office Action, the Examiner rejected claims 1, 4-7, 9-11, 14-27 and 30-31 under 35 U.S.C. 102(e), as being anticipated by Leinwand et al., U.S. Patent No. 6,130,890.

Representative claim 1 of the present patent application recites:

1. A method for routing network traffic, comprising:

receiving the network traffic;

determining a destination for the network traffic;

obtaining geographic information on one of a source or the destination associated with the network traffic from a map of the network, the map being produced as a result of:

determining a route through the network which includes one of the destination or source;

deriving a geographic location of any intermediate hosts contained within the route through the network;

analyzing the route and the geographic locations of any intermediate hosts;

determining the geographic location of the source or destination; and

storing the geographic location in the map; and

directing the network traffic to a desired destination based on the geographic location of the source or destination.

With respect to claim 1, Leinwand does not teach how geographic information is produced, as recited in the present claims. In disclosing the geographic area of the source and destination (Leinwand, col 3, lines 11-13), there is no discussion in Leinwand as to how the geographic location is determined. Because of the nature of the Internet, an IP address or any other piece of information about a source or destination does not identify any information about the geographic location of either.

What Leinwand does teach is how to determine the geographic location of an AS (Autonomous System), which can encompass millions of IP addresses and large geographic areas (sometimes the entire world). In contrast, the present claimed invention seeks to provide finer routing control with the ability to determine decisions on a country, region/state, or even city level.

Leinwand's discussion on routing (Leinwand, col.. 7, lines 5-25) also is from a router's point of view in an attempt to minimize hops for a data packet. This also is without regards to geography. Routers make no distinction as to the location of sender/receiver and merely attempt to determine the shortest path between the sender and receiver.

The above arguments apply as well to all of the claims depending from claim 1. Further arguments below are provided with respect to some of these dependent claims.

With respect to claim 4, the Examiner states that Leinwand discloses autonomous systems requesting traffic. Leinwand does not teach how to determine the geographic location of intermediate hosts in a route (Leinwand, col. 2, lines 14-19), but instead describes how AS announcements and routing works. Again, AS's are not confined nor bound to any specific level of geography and can not be used to accurately determine geography.

Leinwand discloses the storing of a country level geographic map to AS numbers (Leinwand, col. 15, lines 19-34), but this is unrelated to the claims of the present application. The claimed invention utilizes a technology which maps, at a country, region/state, city, and/or

finer resolution, to a discrete IP address. Again, an AS is an aggregation of potentially thousands, tens of thousands, or millions of IP addresses.

With respect to claim 11, the Examiner cites to Leinwand at col. 11, lines 5-24, for "disclosing choosing a route having the fastest speed for the data packet." However, it is respectfully submitted that such disclosure has no bearing on claim 11 at all. Claim 11 recites directing packets based on the sender's connection speed to the network. For example, if a sender is connected through a slow connection (i.e. a dialup connection) he may be routed to a slightly slower receiver/server because the speed of packet delivery would be not noticeable. If the sender is connected through a high speed connection (i.e. a cable modem or DSL line), he may be routed to a more responsive receiver/server because any delivery lag would be noticeable.

Similar arguments as for claim 11 apply to claim 14, in that this embodiment considers actually knowing the interconnection speeds and not optimizing on the fastest speed between nodes (Leinwand, col. 11, lines 5-24).

With respect to claim 15, this defined embodiment of the invention is not disclosed by a router making a decision, since the claimed analysis is not and cannot be performed by a simple router. Prior art routers, including routers discussed by Leinwand, make decisions based on BGP tables based on AS numbers. The present invention seeks finer and more accurate routing decisions than BGP tables and AS numbers.

With respect to claim 17, Leinwand's disclosure of routers making decisions (Leinwand, col. 7, lines 5-25) does not impact this aspect of the present invention, because these prior art router decisions are based on simple shortest path determination, rather than any higher intelligence decisions based on geography. The same argument holds for claim 18.

With respect to claim 19, autonomous systems discussed by Leinwand (col. 7, lines 5-23) have no regard for geography or routing/delivery speed.

Independent claim 24, as well as the claims depending therefrom, recite analogous limitations as claim 1, and the above arguments apply to them as well.

4. Rejections under 35 U.S.C. 103

In the Office Action, the Examiner rejected claims 2 and 3 under 35 U.S.C. 103(a), as being unpatentable over Leinwand further in view of Zhang et al., U.S. Patent No. 6,324,585. The Examiner also rejected claims 8, 12, 13 28 and 29 under 35 U.S.C. 103(a) as being unpatentable over Leinwand further in view of Buhrke et al., U.S. Patent No. 5,231,631.

The Examiner states in the Office Action that with respect to claims 2 and 3, Leinwand teaches all of the limitations of these claims, except that it "fails to teach the limitation further including the use of a domain name service inquiry," but that "Zhang teaches a method and apparatus for resolving a Domain Name Service request in a system where it is possible for the user to connect to more than one network at a time. ..."

It is respectfully submitted that Zhang is entirely irrelevant to the claimed invention at hand. Zhang does mention geographical domains (Zhang, col. 1, lines 46-28) but fails to disclose that such geographical domains do not and are not tied to the actual infrastructure of the network. Therefore a machine with, for example, a uk name (United Kingdom) could be located in Australia (or anywhere else in the world). Thus the introduction or discussion of geographical domains does not aid in the ability of a system to determine accurately how to route traffic from a sender to a receiver.

The present invention does not rely on such geographic domains, and instead uses a network analysis approach to understand how and where senders and receivers of traffic are located and how to most efficiently route traffic between them. Zhang does teach how to use the DNS system for load distribution but this is not claimed.

With respect to claims 8, 12, 13, 28 and 29, the Examiner in the Office Action stated that:

> Leinwand fails to teach the limitation further including the selection of a route based on bandwidth. ... Buhrke teaches a method and apparatus for controlling overflow traffic in a data network ... Buhrke teaches the use of selecting a route based upon having the most available bandwidth, selecting the amount of bandwidth available at the destination, and selecting the destination based on the amount of bandwidth available at it.

It is respectfully submitted that Buhrke is also irrelevant to the claimed invention because it involves a controlled telecommunications network for ISDN. The Internet, which is a network described for use in the present invention, is not singly controlled and thus regulation of traffic cannot be managed by a single entity. Therefore the present invention devises a way to provide the most efficient data path for packets in a real time analysis without requiring full end-to-end control of the network, as does Buhrke. Thus Buhrke is not relevant to the claimed invention.

Based upon the remarks above, it is submitted that all the pending claims readily distinguish over the cited prior art, and all are therefore allowable. A Notice of Allowance to this effect is therefore solicited.

A Credit Card Payment Authorization Form PTO-2038 authorizing payment in the amount of $210.00 for a two-month Extension-of-Time is enclosed. This amount is believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

NEEDLE & ROSENBERG, P.C.

Gregory J. Kirsch
Registration No. 35,572

NEEDLE & ROSENBERG, P.C.
Customer No. 23859
678-420-9300
678-420-9301 (fax)

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Gregory J. Kirsch — Date: 21 JUNE 2004